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Challenges faced by developing countries in competition and regulation in the maritime transport sector

Note by the UNCTAD secretariat

Executive summary

Over 80 per cent of world merchandise trade by volume and over 70 per cent by value is carried by sea and handled by seaports worldwide. More than half of the total value of global seaborne trade involves containerized cargo transported by liner shipping carriers. Maritime transport is thus highly significant for trade and development, and the liner shipping industry plays a crucial role in international trade in manufactured goods, which contributes to economic growth.

This note focuses on the regulatory framework of the liner shipping industry and related competition issues. It considers the market structure and the most recent developments with regard to competition and concentration in the sector. In addition, the note examines the challenges faced by developing countries and provides policy options for promoting competition in the industry.

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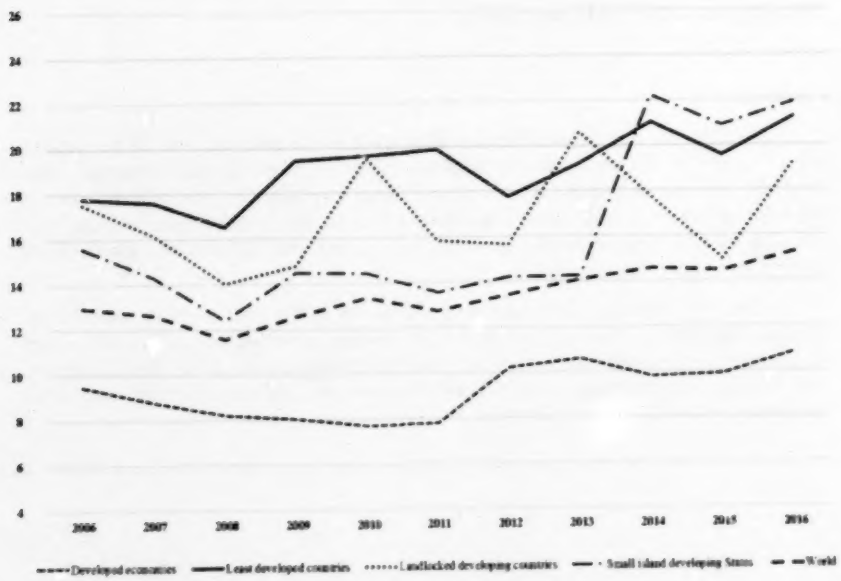
Introduction

1. The maritime transport supply chain includes many segments, ranging from the building, owning and registration of ships to the operation and scrapping of ships. Each segment involves different actors from both developed and developing countries. Over 80 per cent of world merchandise trade by volume and over 70 per cent by value is carried by sea and handled by seaports worldwide. World seaborne trade volumes are estimated to grow at a compound annual growth rate of 3.2 per cent in 2017–2022.[1] Maritime transport is thus highly significant for trade and development. In 2007, containerized cargo accounted for 52 per cent of the total value of global seaborne trade, reflecting the higher value of goods carried in containers; tanker trade accounted for 22 per cent; general cargo accounted for 20 per cent; and dry bulk accounted for 6 per cent.[2]

2. Transport costs are a non-negligible part of trade costs. In 2016, countries spent on average about 15 per cent of the value of their imports on international transport and insurance and smaller and vulnerable economies paid higher costs, reaching an average of 22 per cent in small island developing States, 19 per cent in landlocked developing countries and 21 per cent in the least developed countries (figure). Less efficient ports, inadequate infrastructure, limited economies of scale and less competitive transport markets are among the factors determining transport cost burdens in many developing countries.[3] Growing vessel sizes and reduced competition due to further consolidation may worsen this situation, in particular for small and structurally weak economies.

Transport and insurance costs of international trade, 2006–2016
(Percentage share of value of imports)



Source: UNCTAD, 2017, figure 3.5.

[1] UNCTAD, 2017, *Review of Maritime Transport 2017*, United Nations publication, sales No. E.17.II.D.10, New York and Geneva.
[2] UNCTAD, 2013, *Review of Maritime Transport 2013*, United Nations publication, sales No. E.13.II.D.9, New York and Geneva.
[3] UNCTAD, 2017.

3. The UNCTAD liner shipping connectivity index indicates the level of integration of a country into global liner shipping networks. Connectivity improved significantly in 2004–2017 and the index increased for a majority of countries.[4] An UNCTAD study assessing the impact of the nature of maritime connections on bilateral exports of containerized goods demonstrated that the quality of maritime connectivity is likely to be a significant determinant of foreign market access and, eventually, export performance.[5] This shows the importance of the liner shipping industry and the liner shipping connectivity of countries with regard to export competitiveness and global trade.

4. In 2016, the maritime transport sector continued to be affected by the economic downturn after 2009, which has brought about persistently weak global demand. The supply of carrying capacity increased faster than demand, leading to global overcapacity and depressed freight rates and shrinking the profitability of liner shipping carriers. This has led to increased consolidation through mergers and global alliances among container carriers in a market that was already highly concentrated.

5. This note focuses on the regulatory framework of the liner shipping segment of maritime transport and related competition issues. The liner shipping industry is a capital-intensive industry characterized by an imbalance between the supply of vessel capacity and the demand for moving cargo. The current context, although welcome from the perspective of shippers given the impact on rates, presents challenges to liner shipping service providers. Such challenges include compressed demand due to persistently weak growth in global trade since 2009; historically low freight rates; intense competition between carriers, potentially resulting in unsustainable cuts in rates; a race to order megaships; and new, more stringent environmental regulatory requirements.[6] To respond to such challenges, the liner shipping industry has sought to optimize capacity utilization and reduce costs through consolidation and has therefore experienced increasing market concentration in recent years. In 2016 and the first half of 2017, the industry witnessed an intensification of consolidation efforts, in the form of both mergers and acquisitions and through liner shipping alliances.

I. Liner shipping: Cooperative arrangements

6. The liner shipping industry is characterized by cooperative arrangements, which originally took the form of liner conferences and, following the initiation of containerization in 1956, have also taken the form of consortiums, strategic alliances and capacity-stabilization, vessel-sharing and voluntary-discussion agreements. The international regulatory regime was initially characterized by an almost universal exemption of all such forms of cooperation agreements from the application of competition law. Exemptions for liner conferences were justified on the basis of arguments that the specific nature of costs that characterized the sector rendered competition in the industry unsustainable, resulting in poor outcomes for all market participants. Liner conferences were therefore perceived as inevitable for the profitability and stability of carriers and for service regularity for exporters.[7]

7. The Convention on a Code of Conduct for Liner Conferences (1974) defines a liner conference as "a group of two or more vessel-operating carriers which provides international liner services for the carriage of cargo on a particular route or routes within specified geographical limits and which has an agreement or arrangement, whatever its nature, within the framework of which they operate under uniform or common freight rates

[4] See http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=92.

[5] Quality variables include the existence of a direct maritime connection between two countries, that is, of at least one operational shipping service, and a variable resulting from an optimization algorithm indicating the number of trans-shipments necessary to connect two countries (M Fugazza, 2015, *Maritime Connectivity and Trade*, Policy Issues in International Trade and Commodities, Research Studies Series No. 70, United Nations publication, New York and Geneva).

[6] JW Butler, 2017, World Shipping Council statement to the United States Subcommittee on Coast Guard and Maritime Transportation, 3 May, Washington, D.C.

[7] Organization for Economic Cooperation and Development, 2015, Competition issues in liner shipping, DAF/COMP/WP(2015)3, 10 June.

and any other agreed conditions with respect to the provision of liner services". In modern competition law terminology, conferences fall under the definition of a price-fixing cartel.

8. Liner conferences remain exempt from competition law in many jurisdictions. In jurisdictions with exemptions, these have been softened and subjected to certain conditions, with the possibility of investigating the anti-competitive practices of conferences. The proponents of liner conferences justify their exemption on the basis of high fixed costs, large initial capital investments, other high non-cargo costs, imbalances between supply and demand and overcapacity and the need for regular, scheduled maritime shipping services in international trade.

9. The powers of liner conferences began to decrease after the 1970s. The adoption of the Ocean Shipping Reform Act in the United States of America in 1998, along with a report by the Organization for Economic Cooperation and Development in 2002, changed the international landscape for liner conferences. The main change introduced by the Act was to allow confidential service contracts with carriers outside conferences, which no longer needed to be made public. This increased competition and contributed to reducing the importance of conferences. The Organization for Economic Cooperation and Development report questioned whether antitrust exemptions for liner conferences could be justified and, upon examination of the economic rationale for such agreements, found that there was no compelling evidence of benefits for shippers and consumers. The report concluded that liner shipping conferences no longer served the purpose of guaranteeing freight rates and supply stability for shippers and, therefore, were no longer warranted.[8]

10. The report led to a review of the European Union block exemption for liner conferences and its repeal in 2008. Both the Organization for Economic Cooperation and Development report and the European Union decision to repeal block exemption led to a review of exemptions in other jurisdictions, including Australia, Israel, Japan and New Zealand, with different results. Israel repealed block exemption for shipping agreements. Other jurisdictions, such as Australia, Japan, Singapore and the United States have maintained immunity for agreements between liner shipping carriers.

11. Following the introduction of containerization, from the 1960s onwards, carriers began to focus on cost rationalization in addition to rate fixing. This brought about a proliferation of consortiums. The Organization for Economic Cooperation and Development defines consortiums as agreements and/or arrangements between liner shipping carriers "aimed primarily at supplying jointly organized services by means of various technical, operational or commercial arrangements (e.g. joint use of vessels, port installations, marketing organizations, etc.)".[9] The aims of consortiums include reducing capital costs, sharing risks, achieving economies of scale and strengthening bargaining power against terminal operators and port authorities. The latter is achieved through increased consolidation in the sector and has reached an extent where the powers of carriers compared with terminal operators may pose competition challenges and risks with regard to export competitiveness, in particular in developing countries.

12. A specific form of consortium, namely a global alliance, began to be formed in the 1990s. An alliance consists of a small group of carriers that engage in substantial asset sharing and operational cooperation while maintaining individual marketing and commercial identities. In contrast to liner conferences, alliance members do not jointly set freight rates but independently compete on pricing. Alliance members often enter into vessel-sharing agreements covering major routes, each of which may be defined as a relevant market in competition law terminology. Normally, an alliance covers at least two of the major East–West trade routes, namely Europe–Asia, Asia–United States and United States–Europe. All carriers in an alliance bring together their fleets, moving containers on behalf of each other, to extend their services and geographic coverage, with the aim of increasing market share, reducing undercapacity issues, improving co-loading opportunities, optimizing port calling efficiencies and minimizing overall risks. Many

[8] Ibid.

[9] Organization for Economic Cooperation and Development, 2002, Regulatory issues in international maritime transport, DSTI/DOT(2001)3, 8 March.

jurisdictions consider that consortiums and alliances generate efficiencies, and therefore provide general exemptions from competition law.[10] Currently, three alliances, namely the 2M Alliance, Ocean Alliance and "The" Alliance, bring together the leading 10 carriers.[11]

13. Consortiums are regulated by agreements between members, such as, in order by degree of commitment by signatories, slot-charter, slot-exchange and vessel-sharing agreements. Slot-charter agreements consist of the lease of container slots by a partner on board vessels operated by consortium members. Slot-exchange agreements are similar but also entail reciprocal chartering. Vessel-sharing agreements are the strongest agreements, and entail sharing ship capacity with partners in order to increase ship utilization rates.[12]

14. Vessel-sharing agreements are a common practice and considered to be increasingly economically relevant in the liner shipping industry. Many of the largest carriers are involved in some type of vessel-sharing agreement. Such agreements facilitate operational arrangements for the provision of liner shipping services and may include coordination or the joint operation of vessel services and the sharing of vessel capacity. They can help promote competition by facilitating market entry for carriers that do not have a sufficient volume of cargo to operate an independent vessel, in order for them to compete with other carriers on the same routes. Such agreements may benefit in particular smaller carriers or carriers that wish to enter new markets.[13] In addition, liner shipping carriers need cooperation agreements to ensure the continuity of service in the long term. The ability to easily enter into and exit agreements and adjust agreements to market changes, as well as the legal certainty provided by sector-specific regulations or exemptions, provide carriers the flexibility and ability to adjust services to changes in market conditions, with limited service disruption.[14]

15. In principle, vessel-sharing agreements do not provide for any agreement on the quantity to be carried or for price fixing. They are often exempt from competition law in many jurisdictions, and may be subject to review or approval by competition authorities. Exemptions for vessel-sharing agreements provide reassurance to liner shipping carriers by reducing or eliminating unnecessary litigation that may slow their operations.[15] One study that examined the effects of the formation and enlargement of vessel-sharing agreements on equilibrium prices, equilibrium aggregate quantities and consumer welfare showed that on a given commercially active route, the formation and enlargement of such agreements increased shipper welfare (consumer surplus) and the volume of cargo transported (equilibrium aggregate quantity) and lowered freight rates, and concluded that vessel-sharing agreements had pro-competitive effects.[16]

16. Another type of agreement is a voluntary-discussion agreement, under which parties may exchange market information, such as on supply and demand forecasts and industry trends, and subscribe to voluntary guidelines. Although non-binding, voluntary guidelines and information sharing under such agreements may facilitate price and capacity fixing and are not justified with regard to their impact on the creation of efficiencies.[17] Voluntary-discussion agreements are not exempt from competition law in the European Union. Other jurisdictions may allow such agreements along with other cooperative agreements, including price-setting liner conferences, as long as they are notified to competition authorities and are subsequently monitored. In 2013, about 65 liner conferences and voluntary-discussion agreements existed on the trans-Pacific and transatlantic routes, representing approximately 50 per cent of world trade.[18] Given its

[10] UNCTAD, 2016, Liner shipping: Is there a way for more competition? Discussion paper No. 224.

[11] For more information on global alliances, see UNCTAD, 2017.

[12] Organization for Economic Cooperation and Development, 2015.

[13] Contributions from the World Shipping Council, the European Community Shipowners' Associations and the International Chamber of Shipping.

[14] Ibid.

[15] Contribution from the Government of India.

[16] F Quartieri, 2017, Are vessel-sharing agreements pro-competitive? 21 April.

[17] Contribution from the Government of India.

[18] AJ Braakman, 2013, The anti-competitive effects of a globally concentrated, oligopolistic maritime market: From explicit to tacit collusion – An analysis based on the P3 network, *Journal of International Maritime Law*, 19(5): 419–436.

experiences in cartel investigations, the competition authority of Brazil determined that some agreements, which could initially result in economic efficiencies, had conditions that could lead to illegal agreements between competitors.[19]

II. Liner shipping: Regulatory framework for competition

17. The major liner shipping trade routes are the Asia–Europe, trans-Pacific and transatlantic routes, as well as the intra-Asia route. In 2016, world container port volumes by region were as follows: Asia, 64 per cent; Europe, 16 per cent; North America, 8 per cent; developing America, 6 per cent; Africa, 4 per cent; and Oceania, 2 per cent.[20]

18. This chapter examines the regulatory framework for competition in leading economies on major trade routes, which have a global regulatory impact, namely China, the United States and the European Union. This does not mean that regulation of the sector is limited to the relevant authorities in these jurisdictions. Other competition authorities play an essential role in ensuring competition in liner shipping, since a merger or acquisition between carriers cannot be operationalized until it has been approved by all notified jurisdictions.

19. At the international level, there is no globally endorsed, legally binding multilateral instrument on competition in liner shipping. A number of instruments related to liner shipping have been adopted under the auspices of international organizations such as UNCTAD, including the Convention on a Code of Conduct for Liner Conferences, which entered into force in 1983 and had 76 States parties as at 15 January 2018, and the guidelines for its application, developed in 1986. The Convention provides, among others, rules on access to cargo shares by shipowners established in the territories of States parties that serve their mutual foreign trade. It grants certain rights and imposes requirements upon States parties aimed at addressing the special needs of and alleviating the challenges faced by developing countries. The Convention requires 40-40-20 cargo sharing among members of liner conferences, which was an attempt to provide countries with an opportunity to participate in the carriage of their trade. However, as the Convention has not been widely implemented among States parties, this requirement has also not been implemented.

A. China

20. China is the leading global exporter with, in 2016, a 13.12 per cent share in world merchandise exports and accounting for 29 per cent of world container port throughput and 48 per cent of container port volumes handled in the top 40 container terminals.[21] China therefore plays a crucial role in the review of global alliances and mergers in the liner shipping industry.

21. The Ministry of Transport is the authority responsible for enforcing the maritime transport regulations, effective since 2002.[22] The regulations aim to, among others, regulate maritime transportation and protect fair competition and, similar to laws in the United States and the European Union, apply to liner agreements to and from ports in China.[23] According to the regulations, liner agreements and freight-rate agreements must be filed with the Shanghai Shipping Exchange, as the authority designated by the Ministry for this purpose.[24] However, in 2014, the Ministry of Commerce received the notification of the P3 alliance initiative and reviewed the case based on the powers granted under the Anti-Monopoly Law (2008) to review and approve or reject mergers and concentrations based on their competition effects (box 1).

[19] Contribution from the Government of Brazil.

[20] UNCTAD, 2017, figure 4.1.

[21] UNCTADstat database; UNCTAD 2017, tables 4.1 and 4.2.

[22] China, 2001, Regulations on international maritime transportation, Order of the State Council of China No. 335, 5 December.

[23] M Drenan, 2015, Watchdogs of the world: Global liner conference regulators in the modern shipping market and why the P3 agreement failed, *Michigan State International Law Review*, 24(1): 79–109.

[24] UNCTAD, 2016.

Box 1
P3 alliance initiative, 2013

The P3 alliance initiative involved the three largest liner shipping carriers at the time, namely Maersk, the Mediterranean Shipping Company and CMA CGM. The carriers agreed to pool vessels, equivalent to 15 per cent of global capacity, on three major routes, namely the Asia–Europe, trans-Pacific and transatlantic routes. The initiative was considered a sign of the difficulties the industry had been experiencing due to overcapacity and volatile freight rates. The agreement was notified to a number of competition authorities worldwide and was approved by European Union and United States authorities.

However, it was not operationalized due to a decision by the Ministry of Commerce of China in June 2014 to not authorize the alliance. The Ministry had evaluated the potential impact of the alliance on competition under its merger regime and decided that the alliance formed a close association, which differed from traditional vessel-sharing agreements and slot-exchange protocols with regard to forms of cooperation, operational procedure and cost sharing. The Ministry determined that the alliance would significantly enhance the market power of the parties and market concentration on the Asia–Europe route, and erect entry barriers to this route. The combined capacity share of the three carriers had reached 46.7 per cent by January 2014. The Ministry also reviewed impacts on other actors, such as competing liner shipping carriers, shippers and port authorities, and determined that the increased market power in the sector of the leading three carriers would have a negative impact on such other actors, in particular due to the strengthened bargaining power of the three carriers compared with shippers and port authorities.

Sources: *Financial Times*, 2013, Big three container shipping groups plan alliance, 18 June; Ministry of Commerce of China, 2014, Announcement No. 46, 20 June.

B. United States

22. The Federal Maritime Commission is the independent regulatory agency responsible for the regulation of seaborne transportation in the foreign commerce of the United States for the benefit of United States exporters, importers and the United States consumer.[25] Its mission is to ensure competitive and efficient maritime transportation services for shippers, by monitoring agreements among carriers and service contracts with regard to their effects on prices and services. The amendment of the Shipping Act (1916) in 1961 established the Commission and gave it the power to disapprove agreements between liner shipping carriers that were not in the public interest. In this regard, a violation of antitrust laws would be considered against the public interest. The Shipping Act (1984) removed both the public interest clause and the requirement for approval by the Commission for agreements between liner shipping carriers. Vessel-sharing agreements and other cooperative agreements are also permitted under the Act.

23. The United States has a statutory antitrust exemption for liner conferences. The Shipping Act, as amended by the Ocean Shipping Reform Act (1998), provides an alternative competition enforcement regime and includes limited antitrust immunity for agreements between liner shipping carriers from competition law. The Act introduced reforms that ended the authority of liner conferences to regulate the service contracts of members. In addition, the Act allows conference members to negotiate independent confidential service contracts with shippers and prohibits other members from retaliating against shippers or carriers that do so. Prior to the Act, such contracts had to be made public, potentially reducing the incentive for participants to enter into them. The annual report of the Commission in 2014 stated as follows: "Conference or price-fixing agreements have become largely irrelevant to United States liner shipping. No new carrier conference agreements have been filed with [the Commission] since fiscal year 2000. The

[25] Organization for Economic Cooperation and Development, 2015, Competition issues in liner shipping, DAF/COMP/WP2/WD(2015)13, 26 May.

remaining three conferences cover only government cargoes."[26] All conduct that does not fulfil antitrust exemption requirements is subject to competition law and investigated by the Department of Justice if it involves cartel-like practices, including price fixing, bid rigging and market allocation.

24. With regard to competition law enforcement related to maritime shipping services, the Commission monitors the competitive impact and commercial conditions of agreements between liner shipping carriers. Under the Act, parties must notify the Commission of such agreements and state their purpose. The Commission conducts a competition impact assessment and develops monitoring report requirements before clearing an agreement. Unless the Commission rejects it and challenges it in the courts, an agreement takes effect 45 days after filing.

C. European Union

25. Regulation No. 4056/86 provided a block exemption for liner conferences from European Union competition rules. In 2003, the European Commission initiated a review of this regulation to verify whether the justification for price fixing and supply control by liner conferences remained relevant under changing market conditions. The review found no causal link between price fixing and reliable liner shipping services. In contrast, it concluded that revocation of the exemption would improve service quality and decrease prices and lead to considerable reductions in charges and surcharges, and that the decrease in prices would provide developing countries with an opportunity to increase exports and imports. Repeal was also likely to have a positive impact on developing countries since they typically exported low-value commodities with a relatively high share of transport costs.[27]

26. Consequently, the European Union adopted Regulation No. 1419/2006, which repealed Regulation No. 4056/86 and the block exemption for liner conferences, with effect from 18 October 2008. Anti-competitive practices of liner conferences on routes to and from the European Union are no longer exempted from the scope of article 101(1) of the Treaty on the Functioning of the European Union.

27. With regard to consortiums, the European Union adopted its first block exemption in 1995, which has been reviewed several times since. Regulation No. 906/2009 extended the block exemption for consortiums until April 2020. If it is not extended following a five-year review, it will expire. The exemption is limited to international liner shipping services to or from one or more European Union ports. Consortiums do not involve price-fixing arrangements. According to Regulation No. 906/2009, consortiums improve the productivity and quality of liner shipping services through economies of scale in vessel operation and port facility utilization and promote technical and economic progress. One study attributes the favourable approach of the European Union to consortiums and/or vessel-sharing agreements to the view that they benefit not only carriers but also consumers and shippers through the trickledown effect of efficiencies.[28] According to Regulation No. 906/2009, the joint market share of the members of a consortium may not exceed 30 per cent and, if it does so, the consortium cannot benefit from the exemption. At present, consortiums and alliances exceed a 30 per cent market share and consortium or alliance members must therefore perform self-assessments of compliance with article 101(1) of the Treaty on the Functioning of the European Union. If they cannot demonstrate compliance, they must demonstrate that the consortium or alliance creates efficiencies and passes them on to customers and complies with the other conditions under article 101(3).

28. The P3 alliance initiative exceeded a 30 per cent market share and could not benefit from the block exemption. The European Commission was not required to formally approve the proposed alliance. However, it conducted a review due to the unprecedented size and characteristics of the alliance, and the potential anti-competitive effects that might

[26] Ibid.

[27] European Commission, 2005, Proposal for a Council regulation repealing Regulation No. 4056/86.

[28] Drenan, 2015.

have arisen due to exchanges of sensitive information and foreclosures in relevant markets, as well as with regard to the significance of efficiencies the alliance might have created.[29]

III. Liner shipping: Market structure, concentration and competition

29. Vessel size and capacity have increased significantly in the last decade. Maximum ship size in terms of 20-foot equivalent units grew from 8,160 in 1997 to 15,550 in 2006 and 21,100 in 2017.[30] The continuing increase is a result of the search for economies of scale, and triggers increased consolidation due to difficulties in filling megaships.

30. Liner shipping is a concentrated industry, with the five largest operators accounting for 61.1 per cent of global vessel capacity as at 30 April 2018.[31] Despite recent consolidation, container shipping remains a competitive industry.[32] One study in 1998 highlighted that mergers and acquisitions had created some large liner shipping carriers and that "the top 20 carriers now control more than half of the world's container slot capacity".[33] In 2014, the leading 10 shipping lines accounted for 68 per cent of deployed capacity; by 2018, their share had increased to 83 per cent.[34]

31. The sector witnessed greater consolidation in 2016 through mergers and acquisitions and mega-alliances (box 2). Following recent consolidations, in the first quarter of 2018, the average number of liner shipping service operators by jurisdiction fell by 7.3 per cent, compared with in the second quarter of 2016.[35] In the same period, the number of operators decreased by 19 per cent in Brazil, 17 per cent in Egypt, 13 per cent in South Africa, 8 per cent in Malaysia and 5 per cent in China.[36] The number of services provided by all liner shipping operators fell by 7.5 per cent, from 504 in the first quarter of 2014 to 466 in the first quarter of 2018.[37] The impact of increasing consolidation is also felt by smaller operators that are not a part of alliances. Their share of deployed capacity is 11 per cent on the trans-Pacific route, 7 per cent on the transatlantic route and1 per cent on the Asia–Europe route.[38]

Box 2

Recent mergers and global alliances in container shipping

The number of large-scale international carriers in the liner shipping industry had fallen from 20 to 17 by the end of 2016, as a result of the acquisition of American President Lines by CMA CGM and the merger of China Shipping Container Lines and China Ocean Shipping (Group) Company, as well as the exit of Hanjin Shipping in September 2016.

The number of carriers has further decreased with the latest mergers concluded in 2017, namely the Maersk and Hamburg Süd merger, the Hapag-Lloyd and United Arab Shipping Company merger and a new joint venture due to start operations in April 2018, Ocean Network Express, launched by the three largest lines in Japan, namely Nippon Yusen Kaisha, Mitsui Osaka Shosen Kaisha Lines and Kawasaki Kisen Kaisha Limited – K Line.

[29] Organization for Economic Cooperation and Development, 2015, Competition issues in liner shipping, DAF/COMP/WP2/WD(2015)1, 9 June.

[30] Organization for Economic Cooperation and Development International Transport Forum, 2015, *The Impact of Megaships*, Paris, p. 18.

[31] See https://alphaliner.axsmarine.com/PublicTop100/.

[32] Drewry Maritime Research, 2018, Drewry insight weekly, January.

[33] Economic Commission for Latin America and the Caribbean, 1998, *Concentration in Liner Shipping: Its Causes and Impacts for Ports and Shipping Services in Developing Regions*, Santiago.

[34] MDS Transmodal, 2018, Top 10 shipping lines control almost 90 per cent of the deep-sea market, 18 February.

[35] MDS Transmodal containership database.

[36] UNCTAD calculations based on MDS Transmodal containership database.

[37] MDS Transmodal, 2018.

[38] MDS Transmodal containership database.

There are thus at present 12 large-scale international carriers. In addition to mergers and acquisitions, shipping lines have undergone transformations through the shuffling of existing alliances and the creation of new alliances. The leading 10 carriers have joined forces in three global alliances, down from four at the start of 2016. In addition to the 2M Alliance, two new alliances, Ocean Alliance and "The" Alliance, have been established and started services in April 2017.

Source: UNCTAD, 2017.

32. Consolidation may result in better supply management and fleet utilization and improved efficiency, and benefit the industry through the pooling of cargo and through improved economies of scale, reduced operating costs and improved earnings. Carriers may also gain benefits from cooperation by sharing resources, including port calls and networks, and by developing new services. Shippers may also benefit from consolidation with regard to stability and less fluctuation in freight rates, better pricing due to economies of scale and more efficient and extensive services offered by carriers. UNCTAD estimates that consolidation will continue and that the industry will focus on reducing costs through optimized and efficient networks, better fleet utilization and the rationalization of activities.[39]

33. One study defines the container liner shipping market as a competitive one, in which supply grows faster than demand, leading to decreasing freight rates.[40] Lower rates, however, push smaller carriers out of major routes to niche markets and this may, in the long term, lead to more oligopolistic behaviour and higher freight rates. The study states that it may be sufficient to monitor the market, including with regard to variables such as freight rates and surcharges, market concentration levels and the degree of product development and differentiation.[41] However, freight rates and surcharges are only one area affected by increased market concentration. The impact of increased concentration on other components of the maritime transport supply chain should be considered, such as sailing frequencies, transit times, ports of call and associated service quality. Such factors determine the reliability and predictability of services, and are essential considerations for shippers, that is importers and exporters.

34. Growing concentration in the market increases the risk of market distortion with regard to fair competition. Risks include the fact that carriers may exert market power, limit supply and raise prices in the long term and once the industry reaches stability. In 2016, freight rates on the Shanghai, China–Santos, Brazil route increased by 261.3 per cent compared with 2015, due to the removal of half of the weekly services and more than 40 per cent of deployed capacity in November 2015–February 2016.[42]

35. With regard to the reliability and predictability of liner shipping, global schedule reliability decreased from 82.9 per cent in 2016 to 74.5 per cent in 2017. None of the leading 18 carriers improved on their 2016 reliability scores.[43] Some of the multinational retailers who employ just-in-time strategies and are the largest shippers began to switch to air cargo transportation. Air cargo is no longer a distress purchase for large retailers, but a strategic choice often planned over several months.

36. Shippers are not the only actors affected by increased concentration. Ports, including trans-shipment ports, among which competition is high and market shares are volatile, may be negatively affected if deployment strategies by alliances and the stringent requirements of megaships result in increased preferences for more direct connections. The use of megaships and consolidation through mergers and alliances also decrease the number of ports served by carriers. Megaships and greater consolidation have benefited carriers with regard to economies of scale and lower costs. However, these have implications on

[39] UNCTAD, 2017.

[40] Organization for Economic Cooperation and Development, 2015, Competition issues in liner shipping, DAF/COMP/WP2(2015)5, 10 June.

[41] Ibid.

[42] UNCTAD, 2017, table 3.1.; JOC.com, 2017, Asia–South America spot rate hits record high, 29 May.

[43] *International Transport Journal*, 2018, Liner reliability down in 2017, says Seaintel, 8 February.

other parts of the supply chain, such as shippers, ports and terminals, who need to adapt to dealing with ever-larger vessels and have become dependent on a smaller number of carriers. As a consequence of the growth in vessel size, major carriers bypass or do not call at some ports on the main trade routes. For example, in 2012–2014, the number of weekly Asia–Northern Europe loops decreased by 36 per cent.[44] Large, dominant carriers see more benefits in mergers than alliances, including with regard to costs and improved port operations.

37. In addition, there is a need for digitalization in the liner shipping industry, which requires investment and thus provides an incentive for mergers. In the light of these developments, further consolidation is expected in the industry and it is estimated that by 2028, there may be five or six actors in the sector.[45]

IV. Liner shipping: Challenges arising from competition issues

38. Continuous increases in vessel size and consolidation in the liner shipping industry have led to an oligopolistic market structure on various trade routes. Concentration is higher in smaller developing countries and small island developing States.[46] These countries may therefore face decreased liner shipping service frequencies and higher freight rates. Given the already relatively higher transport costs borne by the least developed countries, landlocked developing countries and small island developing States, their trade levels may be affected more than those of larger developing countries and developed countries.

39. The use of megaships and global alliances have further increased entry barriers in a market characterized by high fixed capital costs. This has made it almost impossible for independent carriers to compete on major trade routes, giving shippers few choices between three global alliances that do not face competitive pressure from independent carriers. This situation may negatively affect smaller importers and exporters in developing countries more than large shippers, which include large multinational retailers. The former may not have the bargaining power to negotiate better rates, terms and conditions with the leading carriers and this may adversely affect their export competitiveness, trade and, eventually, economic growth.

40. In addition, the use of megaships and consolidation in the industry raise concerns for shippers not only with regard to freight rates but also, perhaps more significantly, with regard to service quality. Shippers state that service competition has been significantly reduced and that service quality and standards have been impaired.[47] This is an increasing concern for shippers, in particular those who employ just-in-time strategies.

41. From a vertical perspective, carriers are also customers of ports and terminals. A concentrated liner shipping market may therefore pose challenges to the latter. Carriers have a high level of bargaining power compared with ports and terminals. In addition, ports face challenges in adapting to the use of megaships and the need to invest in port infrastructure. Risks associated with large infrastructure investments and the need to ensure a certain level of traffic have encouraged ports to adopt strategies that involve carriers in their ownership structures. Despite certain efficiency enhancing advantages, such vertical integration between carriers and terminal operators creates the risk of foreclosing access by competing carriers to key facilities and quality services. In such instances, competing carriers are in a disadvantageous position in using terminals owned by rival firms with regard to price, quality and the terms and conditions of terminal services offered. For example, competing carriers may be assigned days of the week that are

[44] Organization for Economic Cooperation and Development International Transport Forum, 2015.

[45] *Financial Times*, 2017, Maersk chief sees further deals in shipping container industry, 13 August.

[46] UNCTAD, forthcoming, Consolidation in liner shipping, Policy brief.

[47] Global Shippers' Forum, 2016, *The Implications of Megaships and Alliances for Competition and Total Supply Chain Efficiency: An Economic Perspective*, Tunbridge Wells, United Kingdom of Great Britain and Northern Ireland, p. 24.

disadvantageous for carriers and more costly for shippers or provided lengthier loading and uploading services at terminals.

42. Increasing the market power of global alliances may have other implications for port operators. Agreements between alliance members do not impose restrictions on the port preferences of parties, yet alliance members generally prefer the same ports.[48] Port operators that fail to come to an agreement with a global alliance may face significant market losses.

43. Some competition authorities in developing countries face challenges in cartel investigations concerning liner shipping carriers, including with regard to the difficulty of locating and notifying individuals involved in investigations, as well as the fact that the headquarters of carriers are not usually in their countries; carrier agency officials have stated that the strategic decisions of agencies are taken by branches outside of the investigating jurisdiction.[49] Competition cases that require agencies to enforce competition law on the conduct of carriers outside their territories pose a significant challenge in developing countries. Competition authorities need to advocate with other relevant government ministries and bodies for solutions suited to addressing such challenges. For example, one challenge for exporters in developing countries relates to free-on-board costs, which include the cost of moving goods from an exporter's factory to a ship and may comprise up to 100 different cost items. If importers buy at free-on-board terms, the costs are born by exporters. Since developing country exporters do not have significant power to negotiate favourable rates with large liner shipping carriers, they may end up paying high amounts, which adversely affects their competitiveness.

V. Policy options

44. There is an intrinsic link between liner shipping and global trade; one cannot exist or grow without the other. The liner shipping industry is capital intensive and often faces an imbalance between supply and demand. Given these characteristics, liner shipping carriers need cooperative arrangements such as vessel-sharing agreements, to deploy their assets and provide their services more efficiently and in a more sustainable and reliable manner. Such agreements can have pro-competitive effects and are necessary to ensure the viability of carriers along with the reliability and sustainability of services provided to shippers.

45. The industry has experienced significant changes in the last decade, including the repeal in the European Union of the block exemption for liner conferences, the introduction of megaships, increased consolidation and changes in the structure of global alliances. The market structure is therefore quite different from the era when block exemption regulations were drafted in many jurisdictions. Countries may therefore consider reviewing the need to maintain exemptions for liner conferences and voluntary-discussion agreements.

46. Given the high level of market concentration, it may be worthwhile to consider examining alliances under merger control regimes. This would provide an opportunity to fully analyse their impact on competition, service quality and efficiency and to impose appropriately designed remedies related to any concerns. Another option would be to impose reporting requirements on alliances, such as those imposed on the P3 alliance initiative by the Federal Maritime Commission of the United States. In analysing mergers and alliances, competition authorities need to look at not only price-related competition effects, but also at the variety and quality of services provided to shippers. Competition authorities need to consider the effects on the range and quality of services, frequency of ships, range of ports serviced, reliability of schedules and efficiency, among others. Such deeper analysis requires competition authorities to strengthen their merger review skills and capacities.

47. Competition authorities need to closely follow and monitor developments in the container shipping sector, in particular with regard to global alliances and other non-rate-fixing agreements exempt from competition laws, as well as freight trends and

[48] Contribution from the Government of Turkey.

[49] Contributions from the Governments of Brazil and Turkey.

market shares, to ensure fair competition and prevent anti-competitive practices in such markets. Authorities also need to take into consideration not only competition between carriers but also vertical integration between carriers and terminal operators, and the implications for competing carriers, shippers and port authorities. Concerns may be addressed by engaging with all stakeholders in the maritime transport supply chain, including carriers, shippers and port authorities. This would allow authorities and regulators to better evaluate the implications of horizontal and vertical integration in the industry and find solutions that are acceptable to all parties.

48. Ports play a crucial role in maritime transport and global trade. Competition between terminals at a port is essential to ensure the efficiency and competitiveness of terminals and ports, and any related concerns may affect the competitiveness of terminals and ports, as well as of exporters, and harm global trade. A port controlled by one or two large carriers may raise concerns for competing carriers with regard to access to services under equal terms and conditions and quality levels. Terminals or ports are usually put out for tender through concessions by port authorities and operated by the winning firms for a period of over 20 years. Competition and port authorities should therefore work together to address competition concerns that may arise, ensure fair competition at ports and enhance the competitiveness of this segment of the supply chain.

49. International cooperation is essential in dealing with cross-border anti-competitive practices, and even more so in maritime transport given its global nature, as well as its role in facilitating and promoting international trade. In this context, many member States have indicated that the United Nations Set of Multilaterally Agreed Equitable Principles and Rules for the Control of Restrictive Business Practices provides the necessary mechanism for international cooperation.[50]

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[50] Contributions from the Governments of Argentina, Brazil, Kenya, Netherlands, Panama, the Republic of Korea and Turkey.